Chapter 2
The Planning Process

The planning process for this CCP began with a "kick-off" meeting in July 1999. Initially, members of the CCP planning team and refuge staff identified a list of issues and concerns that were associated with management of the refuge. These preliminary issues and concerns were based on staff knowledge of the area and association with citizens in the community. The planning team, consisting of refuge staff, Service planners and a consultant to the Service, then invited refuge neighbors, organizations, local government agencies and local staff of national and state government agencies, schools, and interested citizens to share their thoughts in a focus group meeting (19 participants) on August 18, 1999 and at an open house session on September 14, 1999 (12 participants). The planning team accepted oral and written comments at the open house. Five written comments were received.

In October, 1999, the planning team met for an intensive three-day workshop to develop and consider four management alternatives that addressed the issues and concerns in different ways. The alternatives generally describe levels of management varying from near passive to more intensive. Once an alternative level of management is selected, methods for achieving that level can be developed. (The four management alternatives are described in the Environmental Assessment of Appendix A on page 113.)

Subsequent planning team meetings in November, 1999 and January, 2000 were held with Region 3 U.S. Fish and Wildlife Service officials and biologists in Fort Snelling, Minnesota to critique and revise these draft alternatives and associated goals and objectives. In February, 2000 the planning team again met for two days at DeSoto Refuge to further refine goals, objectives, and strategies.

Issues

The focus group raised a diverse range of issues facing the refuge. An initial list of 38 issues was consolidated into the following list of 19 issues concerning DeSoto NWR, which were ranked by the group in order of importance.

The issues listed here reflect terms and experiences familiar to the focus group participants. Each of the issues is included in the alternatives analysis matrix of the Environmental Assessment (Appendix A) beginning on p. 132, in a format that is more compatible to the structure of Service programs.

- Lake management issues – reconnect to river; dredging; structures; water levels; drainage; sedimentation. *DeSoto Lake is the principle geographic feature of the refuge landscape — attracting both waterfowl and people — and its present and future condition will in good part be influenced by management decisions and actions taken by refuge staff and other stakeholders.*

- Grassland/cropland management – balance in land use management. *The refuge must decide the appropriate ratio between these two upland habitat types based on what is most beneficial for wildlife.*

- Snow goose management. *Snow geese are too numerous for their own good and the good of their Arctic breeding habitat. As a principal stopover, DeSoto must contribute to solving this overpopulation problem in a manner that does not simply just drive the geese away from the refuge altogether.*

- Drainage — legal drains entering the refuge. *These ditches, which drain surrounding private agricultural lands, back up and flood farmlands when lake levels are high. They also transport significant sediments, nutrient runoff, and contaminants to DeSoto Lake. Perhaps a study is needed to determine and implement feasible alternative routes for these ditches so that DeSoto Lake is bypassed.*

- Regional perspective – river complex; natural complex; ecosystems approach; consider big picture in planning. *DeSoto Refuge is not an island unto itself; management of its lands and waters affects and is in turn affected by the dynamics of natural and human systems of which it is a part.*

- Deer and beaver effects on adjoining property. *White-tailed deer and beaver from refuge populations are both capable of damaging surrounding private property, the former from eating and the latter from flooding; they need to be monitored and if necessary, controlled.*

- Fishery management in lake and other agencies as stakeholders. *Refuge staff actively manage the DeSoto Lake sport fishery in conjunction with other Service and state fishery biologists. Decisions must be made concerning stocking, controlling rough-fish competition, water quality, and fishery renovation.*

- Public use activities on the refuge; south gate recreation area and campground developed by Iowa Department of Natural Resources. *Managers of Iowa DNR's Wilson Island State Park, which abuts the southeast corner of the refuge, are interested in expanding their recreational development (camping) onto the refuge.*

- Outreach and education; public relations. *DeSoto Refuge must involve its neighbors, its visitors, and the wider community of which it is a part in a more positive and pro-active manner.*

- Prairie wetlands. *The refuge should capitalize on opportunities to maintain, enhance, and increase prairie wetlands.*

- Water quality and nutrient levels in DeSoto Lake. *A vexing issue is how to improve water quality (dissolved oxygen and clarity) and reduce excessive nutrient levels that tarnish this valuable resource. Hypothetical solutions exist, but tend not to be feasible or practicable.*

- Invasive species (e.g. rough-fish and unwanted plants). *DeSoto Refuge faces the ongoing challenge of trying to control rough-fish populations in the lake, which tend to overwhelm sportfish, and monitoring and controlling the spread of a number of undesirable and/or non-native plant species which can infest large amounts of habitat, displacing native species.*

- Riparian forests. *Cottonwoods, which play an important ecological role, are gradually disappearing from DeSoto's riparian forests due to a lack of seasonal flooding along the regulated Missouri River. Restoring and renovating cottonwood stands will prove challenging.*

- Endangered species. *As a national wildlife refuge, a key function of DeSoto is to enhance the survival of threatened and endangered species, of which there are several in the area, including birds and fish.*

- Environmental monitoring. *Keeping track of changes in a number of environmental indicators through time is needed to generate the information and perspective essential to good decision-making and prudent resource stewardship.*

- Overall biodiversity relative to landscape. *The issue is how to best contribute to enhancing biodiversity in the region through active management of the limited amount of land and habitat on the refuge itself.*

- Priority accorded to *Bertrand* exhibit. *The* Bertrand *Collection, a unique cultural resource, is a major responsibility and visitor attraction of this <u>wildlife</u> refuge, a situation that may strike some as incongruous or inappropriate.*

- Building and facility maintenance and upkeep. *In recent years refuge funding has been inadequate to support ever-needed basic maintenance of roads, buildings, and public use facilities.*

- Cooperate with other agencies & work with private lands. *DeSoto staff collaborate with other public and private entities in management activities both on and off the refuge. For such partnerships to function effectively requires constant communication and commitment.*

<u>Note: Lower rankings generally imply the issue or activity is already resolved or is a mandate about which no management decisions are necessary.</u>

The most salient of these issues are organized and discussed below by themes – wildlife population and habitat management, resource protection, public education and recreation, and partnerships. The most pressing issues facing the refuge are those related to management of wildlife populations and their habitat.

Wildlife Populations and Habitat Management

Croplands and Upland Habitats – In the early days of DeSoto Refuge management, emphasis was on farming grain crops – primarily corn and soybeans – to attract migrating waterfowl and to show the local farming community that the refuge, and not just private farms, would be supplying grains to hungry ducks and geese. Providing farming opportunities to farmers also helped the new refuge gain acceptance in the agricultural community from which some of its acres had been taken.

Large and growing concentrations of migrating waterfowl did indeed visit the refuge, particularly the hundreds of thousands of snow geese that now pass through the refuge each fall on their way south. Tens of thousands of mallards were also common fall visitors. However, the attraction to waterfowl could just as well have been the placid, protected waters of DeSoto Lake, which provide a needed sanctuary for resting, sleeping, and loafing. In any case, encouraging such large concentrations of waterfowl may be detrimental to the continental welfare of the species. Subsequently, the U.S. Fish and Wildlife Service and DeSoto Refuge have shifted emphasis toward biodiversity conservation and ecosystem management to benefit a broader complex of flora and fauna, particularly trust species and threatened and endangered species. This evolution of philosophy and mission has resulted in reversion of some cropland acreage to more natural – and regionally scarce – habitats such as native grasslands, riparian forests dominated by cottonwood, and moist soil/wetland plant communities.

At present almost 2,000 acres are leased to several local farmers for the cultivation of corn and other grains, using an innovative biological rotation, which minimizes the use of artificial inputs like fertilizer and pesticides. One-third of the harvest is left behind for migratory waterfowl and resident mammals and birds, or harvested and transferred to other refuges through inter-elevator grain transfers, in accordance with the Service Refuge Manual 6 RM 4.13 (5/24/85). Acreage devoted to cropland is down considerably from its peak of more than 3,000 acres. The issue facing DeSoto resource managers is how much cropland should be retained and how the retired cropland should be utilized.

Cottonwoods and Riparian Forests – Standing in the DeSoto Visitor Center viewing gallery and gazeing across DeSoto Lake, one is immediately struck by the leafy wall of riparian forest standing tall on the opposite side. In another fifty years, however, if existing trends continue, that wall of green foliage may look very different – not so tall, for one thing. Mature specimens of the dominant canopy tree, the cottonwood (*Populus deltoides*) are slowly dying off and not being replaced by younger cottonwoods. Rather, a much smaller, scrubbier, understory tree – the rough-leafed dogwood (*Cornus drummondii*) – is coming up in their place. Cottonwood forests require periodic flooding for regeneration to occur, and since DeSoto Lake was cut off from the channelized Missouri River by a levee in 1960, these floods have not occurred. As a result, the comparatively short-lived cottonwoods are gradually disappearing. One concern is that bald eagles use tall cottonwoods as perches. Another is that a variety of cavity-using birds and mammals depend on them; since cottonwoods have soft wood subject to decay and woodpecker drilling, holes and cavities that provide valuable shelter and nest-sites for wildlife are easily formed.

The issue facing DeSoto NWR managers is this: Should they attempt to circumvent the process of forest succession now underway (as set in motion by human manipulation of the Missouri's floodplain) in an effort to save the cottonwoods, or allow this "unnatural" succession to unfold on its own even if it leads to a less attractive, less ecologically functional forest?

DeSoto Lake and the Missouri River – Still another management issue relates to the aquatic habitat of DeSoto Lake. This oxbow lake was created in 1960 by construction of a cut-off levee, separating it from the Missouri River except for gravity flows through inlet and outlet structures within the levee.

The effectiveness of these structures is limited by their size, but more importantly by the magnitude of river flows; low river flows limit fresh water inflows and high river flows limit the outlet function. In recent years, the latter has been much more problematic. The lake also serves as a connection for surface drainage ditches from private land to the river. These ditches carry significant loads of silt and chemicals which jeopardize the long-term life of this oxbow lake environment.

DeSoto Lake in winter
credit: Leon Kolankiewicz

Low lake elevations result in undesirable concentrations of nutrients, chemicals, and aquatic fauna, producing eutrophic conditions undesirable for fish and aesthetics. Extremely high lake levels, such as those that prevailed for much of 1999, inundate nature trails, boat ramps and other public use facilities, in addition to interfering with management of refuge habitat and private farmlands outside the refuge.

Two issues confront DeSoto management: Should DeSoto Lake be reconnected with the Missouri River to restore natural riverine habitat to benefit trust species and riverine fishes? If not, should a strong, long-term commitment be made to stabilize DeSoto as a high-quality, unique oxbow lake, even if it means that extraordinary measures must be taken to provide desired lake

level and water quality controls? Or, should current management practices be continued that could eventually lead to the demise of this oxbow lake environment?

Snow Geese – At the turn of the new century, the mid-continent population of snow geese is in trouble, not because there are too few birds but because there are too many – what Ducks Unlimited calls "a perilous abundance." In recent years, their population has been growing at 5-8 percent a year (a "doubling time" of just 9-14 years), and now stands at 3 million or more. Snow geese nest in northern Canada on Arctic tundra in the vicinity of Hudson Bay and the Arctic Ocean. Vast areas of cultivated grain along the migration route support much greater numbers in wintering areas of the central and southern U.S. than can be accommodated in their northern breeding range. As a result, snow geese are now ravaging their tundra habitat as they attempt to feed themselves and their goslings. They are causing long-term (if not permanent) damage to slow-growing tundra plant communities and other wildlife that depend on these communities.

Snow geese fill the sky at DeSoto every autumn
credit: John Jave

DeSoto Refuge annually hosts roughly half a million snow geese migrating southward. Over the years, management has successfully attempted to make the refuge an attractive sanctuary for migratory waterfowl. Many tens of thousands of visitors each autumn delight in the dramatic spectacle of snow geese flocks so numerous they blot out the sky. Now, managers must effect a change of course and the public must face the fact that this may be "too much of a good thing." Deliberate population reductions and sanctuary disturbance must be carefully orchestrated along the migration corridors to avoid out-of-control results.

What role, if any, should DeSoto National Wildlife Refuge play in the continent-wide, international effort to reduce snow geese numbers before further damage is done to Arctic habitat or the population crashes on its own?

Resource Protection

Refuge Facilities – Like all institutions, DeSoto Refuge must live within a budget, and doing so necessitates prioritizing a number of programs and projects that compete for funding and staffing. These include managing endangered species, biodiversity, aquatic and upland habitat, fish and wildlife populations, cultural resources, and public use. DeSoto's unique role as conservators of the artifacts from the Steamboat *Bertrand* is expensive and perpetual. These artifacts are on display in the Visitor Center, which also provides exhibits on natural history and an outstanding view of DeSoto Lake and its migratory waterfowl. The Center and its exhibits and artifacts are costly to maintain. In fact, the backlog of artifact and display problems is growing. How do the Visitor Center and its exhibits relate to high priority wildlife management activities?

Invasive (Unwanted) Species and Animal Damage Control – DeSoto Refuge, like many nature reserves and wild areas throughout the United States, is increasingly intruded upon by a number of species of plants and animals, both terrestrial and aquatic, that are either non-native (alien) or undesirable. That is, they do not "belong." These "weedy" organisms were introduced one way or another by human beings. They harm the refuge's native flora and fauna by preying on them or competing with them for limited food, space, and resources. In the worst cases, weedy species can lead to the extirpation (local extinction) of native species or wholesale alteration of plant and animal communities. As a rule, invasive plants are not utilized by native animals for food or shelter as effectively as the native flora to which these animals are adapted. Other wildlife species, although native to the refuge, may be able to cause damage both on and off-refuge. Should DeSoto Refuge managers actively and aggressively combat the ongoing invasion of exotic species by diverting scarce budgetary resources to this mission, or should the refuge adopt a "let nature take its course" approach to all species? How should wildlife populations be controlled to limit their impact on habitat and facilities?

Public Education and Recreation

DeSoto Lake Recreational Fishery – In its early years, DeSoto Lake boasted a good sport fishery. After years of decline, by the early 1980s, rough-fish (non-game fish) had largely taken over the lake from sportfish. In an effort to restore the sport fishery, refuge managers and state agencies carried out a number of measures to improve aquatic habitat and control rough-fish. These culminated with a major renovation in 1985, including drawdown and chemical treatment of the lake. Since that time, more than 35 million sport fish (mostly fry) have been stocked in DeSoto Lake. For a number of years, the sport fishery was better. Yet once again, rough-fish, particularly gizzard shad, have come to dominate the lake.

Should DeSoto Lake fish populations be aggressively managed to maintain a good sport fishery, or should other alternatives be considered, such as the "hands off" approach of allowing the fish species complex to be self-controlled, or even re-connecting DeSoto Lake to the Missouri River, so that riverine species may also utilize the lake? If another intensive, expensive renovation is to take place, what will be the methods used and what will be the source of funding?

Partnerships

Role in the Community and Relations with Neighbors – People in rural communities sometimes view national wildlife refuges as intrusions in the local culture and a source of conflict between natural resource issues and people welfare issues. DeSoto Refuge is sometimes viewed as wasted area that would be better used as productive cropland. The refuge staff strive to obtain public input and be responsive to public concerns in decision-making. These efforts could likely be improved through more formal associations such as a "Friends of DeSoto" group, advisory committees and structured volunteer organizations.

DeSoto National Wildlife Refuge does not exist as an island unto itself. The management actions undertaken on its 7,823 acres affect surrounding landowners, residents, and jurisdictions, the interests of other Federal, state, and local agencies, the public in general, and the larger natural ecosystems of which the refuge is a part. In turn, the actions of these entities have a pronounced effect on wildlife populations, habitat and environmental quality within the refuge. Over the years, refuge staff have built working relationships and conducted a number of cooperative ventures with stakeholders in the wider community. Still, when different parties have fundamentally different goals, it is to be expected that tensions between these goals can arise. Refuge management must perform a balancing act in pursuing DeSoto's mission and being good neighbors. Can the refuge find ways to be more accommodating of these other interests without compromising its basic mission?

Public Comments on Draft Comprehensive Conservation Plan

A part of the planning process was to solicit comments on a fully developed Draft Comprehensive Conservation Plan (DCCP) and the Environmental Assessment (EA). A DCCP/EA was made available for review by the public, by those who participated in the focus group, by interested agencies and organizations, and by others. (See Appendix H.) An open house session for anyone interested in the DCCP/EA was held September 7, 2000, at DeSoto National Wildlife Refuge. Media releases announced the event and also invited anyone interested to submit written comments on the DCCP/EA to the Service. A total of 14 people attended the open house session and a total of 14 written comments were received either at the open house or by mail. The full texts of those comments are presented in Appendix K. The following is a summary discussion of those written comments.

The number of **comments from public users** of the refuge was disappointingly low. Those who did comment urged the planning team to consider ways of making the public use season and public access to the refuge more user friendly throughout the year. Their suggestions included an extended wildlife observation season and auto tour route, access to the refuge through both the north and south entrance gates in the off season, improved road surfaces, public restrooms closer to the boat ramps and adding upland game hunting opportunities.

Response: Goal 3.2 and its subsequent objectives and strategies address all the expressed concerns. The refuge staff is committed to careful monitoring of the interrelationships of the

various public use opportunities in order to maximize quality experiences and minimize conflicts between users. One example is that extension of the wildlife viewing season and the auto tour route could contribute to Goal 1.2, reducing snow goose concentrations.

Comments from other resource agencies (Federal, State) suggested the CCP could be improved by strengthening the goals relating to : (1) Threatened and endangered species (T&ES); (2) DeSoto Lake management; (3) Habitat diversity; and (4) Fishing and hunting opportunities.

Response: The comments concerning T&ES focused on a need for more positive action to restore and preserve nesting habitat for the least tern and piping plover. The planning team revised the T&ES section in Chapter 3 to reflect more clearly the ongoing nesting habitat preservation efforts and to define a specific habitat management effort for the future. Also, the planning team revised Goal 1.6 in Chapter 5 from one that addressed bald eagles only to one that includes positive action for all T&ES that are known to be in the vicinity of the refuge.

There were also critical comments that the Service should make extraordinary efforts to restore riverine fishery habitat that would help in the recovery of the endangered pallid sturgeon and candidate endangered species sturgeon chub and sicklefin chub. Even though restoration of riverine habitat similar to what existed prior to modification of the Missouri River channel and establishment of the refuge may be ideal for terns, plovers, sturgeon and chubs, implementation of the concept is extremely complex. Basically the concept involves reconnecting the lake with the river in some manner that provides a more ideal habitat for the subject species. Restoring connectivity with the river will likely have significant impacts on river and lake hydrology and the lake's sport fishery. At least one agency opposed this concept. In order to scientifically and practically evaluate this concept, Goal 1.7 in Chapter 5 has been revised to describe a proposed comprehensive study to compare the biological and recreational values of an oxbow lake environment with that of a reconnected lake environment. The results of this study will help the Service determine which option would best support the missions of the Service and the refuge.

Comments expressing concern about habitat diversity were focused on the plant complexes that would occupy the cropland acres proposed to be retired. Goal 1.4 has been revised to put more emphasis on reestablishing native tall grass prairie grass and forb species.

Comments concerning public fishing and hunting opportunities called for their continuation and perhaps making some more liberal. The long range future of sport fishing is dependent on the outcome of the oxbow lake/reconnected lake comparison study. In the meantime, sport fishery management will be continued. Some interest was expressed that small game hunting should be allowed on the refuge. Because of the wide array of public use opportunities on the refuge, small or upland game hunting opportunities have not been considered compatible for two reasons: potential conflicts with wildlife observation, and small populations. Goals 3.3 and 3.4 in Chapter 5 have been revised to include management and monitoring efforts that could lead to improved sport fishing and small game hunting opportunities in the future.

Comments from private organizations were similar to those of the resource agencies concerning threatened and endangered species, and reconnecting the lake with the river. Some

comments advocated elimination all hunting and fishing on the basis that it violated the intent of the National Wildlife Improvement Act of 1997, or that these programs provided benefits to only a small constituency. Other organizations advocated increasing hunting and fishing opportunities on the basis that participants were exposed to the principals of sound resource management of regulated fishing and hunting.

Response: The Service believes a proper balance of wildlife-dependent recreation can include hunting and fishing. A balance of consumptive and non-consumptive public use activities serves a larger public constituency and broader spectrum of natural resource interests. The compati- bility determination documents in Appendix D reflect the careful consideration given to each public use activity before it is allowed to occur on the refuge.

Fishing clinic at DeSoto Lake
credit: Bruce E. Weber